

CLAIMS

What is claimed is:

- 5 1. A method for processing scans of an anatomical volume derived from a three-dimensional medical imaging modality, comprising:
computing from said scans a plurality of two-dimensional thick-slice images,
each thick-slice image corresponding to a slab-like subvolume of the anatomical
volume substantially parallel to a standard x-ray view plane for that anatomical volume:
10 and
displaying said thick-slice images to a viewer.
2. The method of claim 1, wherein said viewer is a clinician screening for lesions
within the anatomical volume.
- 15 3. The method of claim 2, wherein said slab-like subvolumes collectively occupy
substantially all of the anatomical volume.
4. The method of claim 3, wherein all of said slab-like subvolumes are
20 simultaneously displayed to the viewer.
5. The method of claim 4, further comprising displaying computer-aided detection
(CAD) annotations to said viewer in conjunction with said thick-slice images.
- 25 6. The method of claim 2, wherein said slab-like subvolumes have an average
thickness roughly equal to about twice an expected size of lesions to be detected
according to the three-dimensional imaging modality.
7. The method of claim 6, said anatomical volume including a chest or abdomen
30 volume, said average thickness being in the range of 1-3 cm, and said standard x-ray
view plane being an anterior-posterior (PA) view or a lateral view.

8. The method of claim 6, said anatomical volume including a head or neck volume, said average thickness being in the range of 0.5-2 cm, and said standard x-ray view plane being a lateral view or a coronal view.
- 5 9. The method of claim 6, said anatomical volume including a breast volume, said average thickness being in the range of 0.5-2 cm, and said standard x-ray view plane being a craniocaudal (CC) or mediolateral oblique (MLO) view.
- 10 10. The method of claim 6, wherein said three-dimensional medical imaging modality is CT, wherein the scans are obtained a substantially reduced radiation level as compared to a conventional CT imaging radiation level, and wherein said computing preserves structures approximately 0.5 cm or greater in size in said thick-slice images.
- 15 11. A system for screening for lesions in an anatomical volume using scans thereof derived from a three-dimensional medical imaging modality, comprising a display device simultaneously displaying a plurality of two-dimensional thick-slice images to a viewer, each thick-slice image corresponding to a slab-like subvolume of the anatomical volume substantially parallel to a standard x-ray view plane for that anatomical volume.
- 20 12. The system of claim 11, wherein said slab-like subvolumes collectively occupy substantially all of the anatomical volume and have an average thickness proportional to an expected size of lesions to be detected according to the three-dimensional imaging modality.
- 25 13. The system of claim 12, said anatomical volume including a chest or abdomen volume, said average thickness being in the range of 1-3 cm, and said standard x-ray view plane being an anterior-posterior (PA) view or a lateral view.
- 30 14. The system of claim 12, said anatomical volume including a head or neck volume, said average thickness being in the range of 0.5-2 cm, and said standard x-ray view plane being a lateral view or a coronal view.

15. The system of claim 6, said anatomical volume including a breast volume, said average thickness being in the range of 0.5-2 cm, and said standard x-ray view plane being a craniocaudal (CC) or mediolateral oblique (MLO) view.

- 5 16. An apparatus for processing scans of an anatomical volume derived from a three-dimensional medical imaging modality, comprising:
- means for computing from said scans a plurality of two-dimensional thick-slice images, each thick-slice image corresponding to a slab-like subvolume of the anatomical volume substantially parallel to a standard x-ray view plane for that
- 10 anatomical volume;
- and
- means for displaying said thick-slice images to a viewer.

17. The apparatus of claim 16, wherein said slab-like subvolumes collectively
- 15 occupy substantially all of the anatomical volume.

18. The apparatus of claim 17, further comprising means for displaying computer-aided detection (CAD) annotations associated with said thick-slice images to the viewer.
- 20

19. The apparatus of claim 18, wherein said slab-like subvolumes have an average thickness roughly equal to about twice an expected size of lesions to be detected according to the three-dimensional imaging modality.

- 25 20. The apparatus of claim 19, said anatomical volume including a chest or abdomen volume, said average thickness being in the range of 1-3 cm, and said standard x-ray view plane being an anterior-posterior (PA) view or a lateral view.